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**DETECTING CONTRABAND BY EMPLOYING
INTERACTIVE MULTIPROBE TOMOGRAPHY**

Abstract of the Disclosure

a An inspection system for detecting a specific material of interest in items of baggage or packages includes a multi-view X-ray inspection probe and one or more material sensitive probes. The multi-view X-ray inspection probe employs X-ray radiation transmitted through or scattered from ^{an} ~~a~~ examined item to identify a suspicious region inside the item. An interface is used to receive from said X-ray inspection probe X-ray data providing spatial information about the suspicious region and to provide this information to a selected material sensitive probe. The material sensitive probe then acquires material specific information about the previously-identified suspicious region and provides it to a computer. The computer uses a high level detection algorithm to identify presence of the specific material in the suspicious region. The material sensitive probe may be a directional probe such as a coherent scatter probe, or a non-directional probe such as a Compton scatter probe or an NQR probe. The detection algorithm can automatically employ the different probes operating in a preferred geometry. The inspection system may also include a graphical interface and an operator interface that enable interactive communication with the detection algorithm.

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